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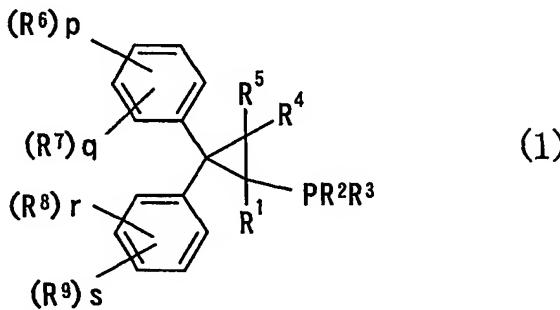
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[Continued on next page]

(54) Title: **A.PHOSPHINE-COMPOUND, ITS INTERMEDIATE, ITS COMPLEX WITH PALLADIUM AND A MANUFACTURING-METHOD-OF-UNSATURATED COMPOUNDS BY USING THE PALLADIUM COMPLEX**



(57) Abstract: Palladium-phosphine complexes obtained by reacting a 5 compound of formula (1) below with a palladium compound: F(I) (wherein R<sup>1</sup> is a hydrogen atom, an alkyl group, a cycloalkyl group or a phenyl group which may be substituted; R<sup>2</sup> and R<sup>3</sup> are each, the same or different, an alkyl group, a cycloalkyl group or a phenyl group which may be substituted; R<sup>4</sup> and R<sup>5</sup> are each, the same or different, a hydrogen atom, an alkyl group, a cycloalkyl group or a phenyl group which may be substituted; R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup> and R<sup>9</sup> are each, the same or different, an alkyl group, a cycloalkyl group, a phenyl group which may be substituted, an alkoxy group, a dialkylamino group, a halogen atom, a phenyl group, a benzyl group, a naphthyl group or a halogenated alkyl group; R<sup>6</sup> and R<sup>7</sup>, R<sup>8</sup> and R<sup>9</sup> may be combined to form, each, a fused ring, a trimethylene group, a tetramethylene group or a 20 methylenedioxy group; p, q, r and s are each an integer of 0 to 5; and p + q, and r + s are each in the range of 0 to 5.), which is a novel and efficient catalyst for manufacturing various useful compounds.

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